Irrigation Equipment and Services
January 2005

Overview

Brazil has a large and diversified economy that offers US companies many opportunities to export their goods and services. As Brazil's largest single trading partner, the US enjoys a strong reputation in a variety of sectors. This report is one of a series that is published by the US Commercial Service's team of sector experts throughout the year. If you do not see an opportunity for your product here, please check out our other reports at www.buyusa.gov/brazil and consider contacting us directly to find out if we can help you export to Brazil.

The first step for many US companies is to visit our Country Commercial Guide at www.focusbrazil.org.br/ccg. In it you will find a good overview of business conditions and issues to consider when doing business in Brazil. In addition, we have recently published a market research overview on Precision Agricultural Equipment which US companies can view for free at http://buyusainfo.net/docs/x_1228091.pdf

Irrigation Equipment and Services in Brazil

The exportation of irrigation equipment and services represent good opportunity for US firms. The most recently available statistics indicate that the Brazilian market for irrigation equipment and services was approximately US$ 268 million in 2004, and the current import share represents nearly 18% of the market. The US share of imported peripherals related to high volume aspersion and other segments such as small volume aspersion and dripping technologies was 28% of the market in 2004.

The most important end-users for this sector are private and government projects and farms and growers established in the Cerrado and Southern areas.

The market has been growing considerably due to a variety of factors, including improved Brazilian access to export markets and many private and public projects that are being implemented to expand irrigated agriculture areas.

Agribusiness in Brazil

Brazil has an impressive agricultural potential, with more than 45% of its total surface (~8.5 million km²) with good agricultural conditions.

Agriculture is one of the Brazil's largest economic sectors. In 2004, agriculture was responsible for 34% (US$ 180 billion) of the country's GDP. It represented 40% (US$ 39 billion) of Brazilian exports and employed 37% of Brazil's workforce. Between 1990 and 2003, the agriculture sector expanded 24% and productivity increased 125%.

Total Irrigation Equipment Market

US$ millions	2003	2004	2005 est*
Total Market Size	236	268	303
Local Production	250	288	331
Exports	56	67	80
Imports	42	47	52
Imports from US	10	13	15

Statistical data are unofficial estimates. 2005 Figures are projected estimates.

Brazilian farmers enjoy a comparative advantage in many agricultural segments, particularly the grain, fruit, fiber, and animal protein sectors. This advantage is due to a temperate climate with plenty of light, the world's largest surface and ground fresh water reserves, excellent quality and diversity of soils and diverse agro-ecological systems.

Although irrigation plays a significant role in the Brazilian agricultural sector, being responsible for 32% of the agriculture production, its area can be considered small compared to the cultivated area of the country. It is estimated that Brazil has 3 million irrigated hectares, which corresponds to 7% of 42 million hectares of cultivated area in the country.

Cerrado

The flat savanna land (Cerrado) has been the most important area for the utilization of irrigation equipment in Brazil, due to its appropriate conditions for mechanized and irrigated cultures throughout the year.

The Cerrado land area represents about 2.1 million km² or 210,000,000 hectares, which is about 24% of the Brazilian territory. It is estimated that only 250,000 hectares are irrigated. It has an annual rainfall of about 1.2 meters; annual temperatures range between 16ºC to 28ºC, and it has large portions of flat areas with an average altitude of 600 meters.

Some of the most important investments planned or underway to expand the irrigated areas in the Cerrado area are listed on the next page.

CODEVASF

São Francisco and Parnaíba Valleys Development Company (Companhia de Desenvolvimento dos Vales do São Francisco e do Parnaíba). www.codevasf.gov.br

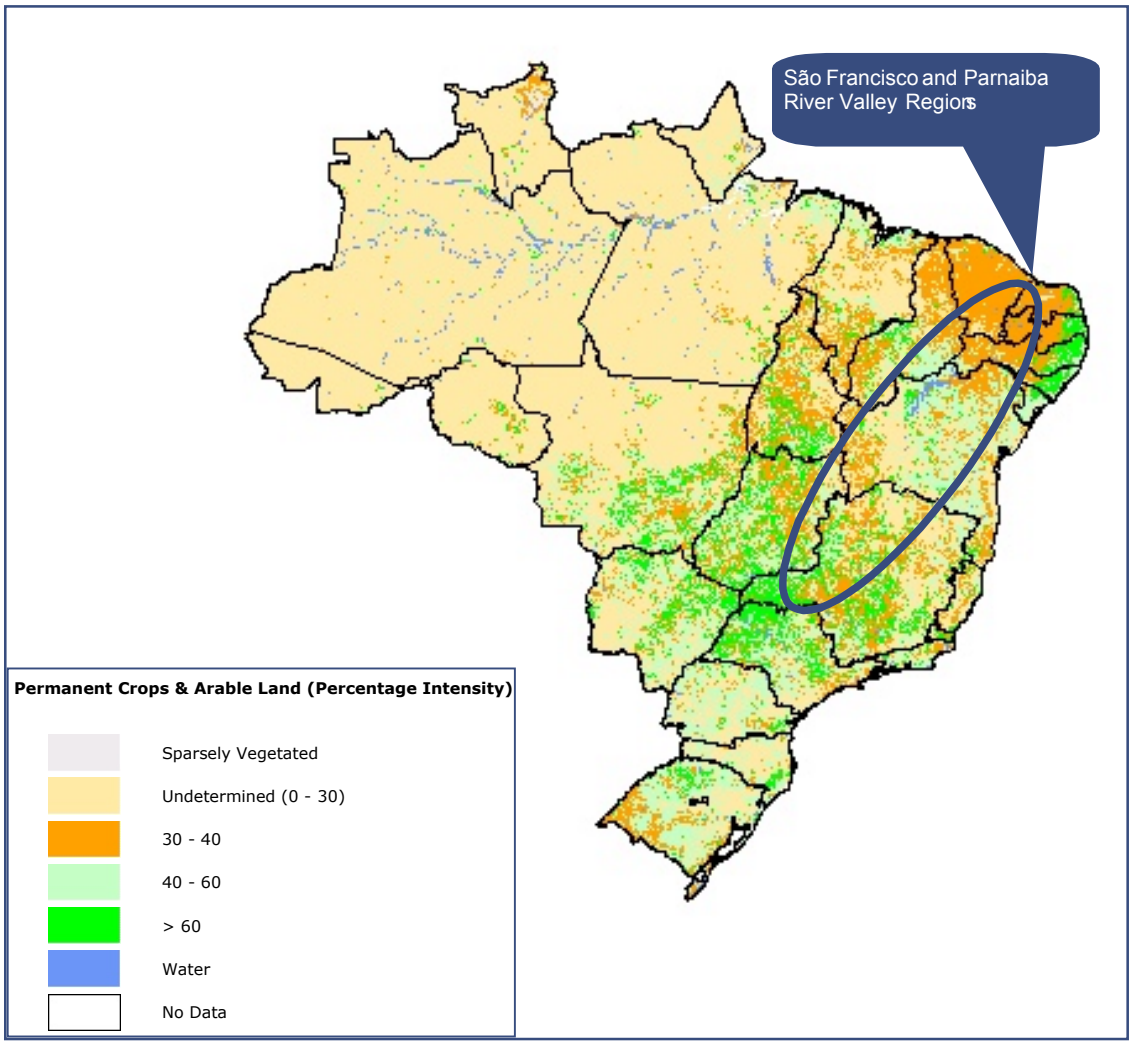
This joint venture between the Brazilian government and the private sector has created forty irrigation projects along the São Francisco River Valley and Parnaíba. In 2004, Codevasf invested approximately US$ 140 million among its projects, which have a total area of approximately 900,000 hectares.

The most comprehensive ones are those covering areas larger than 50,000 hectares each, and are part of the Jaíba Project in the northwestern part of the state of Minas Gerais, and Barreiras in the western part of the state of Bahia.

Jaíba Project
The Jaíba Project was divided into three stages and will include 100,000 hectares of land, which will produce tropical fruits for the domestic and export markets. The first stage was financed by the Inter-American Development Bank – IDB, which irrigated approximately 15,000 hectares. The second stage is about to be concluded. It has been financed by the Japanese Government, through the Overseas Economic Cooperation Fund – OECF, and about US$ 240 million will be invested by the Japaneses at Jaíba. Also, it is estimated that the private sector will invest approximately US$ 85 million in 2005 at Jaíba. www.projetojaiba.com.br

Western Bahia State Projects
The Regions of Barreiras and Luis Eduardo Magalhães, in the State of Bahia, may be considered the geographic center of one of the most important Brazilian Cerrado areas: the Western Bahia Region. AIBA -The Association of Western Bahia Irrigation Producers is an important joint venture of Brazilian producers of soybeans, coffee and corn. It is also an important fruit producer and cattle breeder. The Cerrado covers about 8,000,000 hectares, of which around 1,500,000 hectares are non-irrigated grain cultures (operating only during the rainy season, i.e., from October to March). Of these, only 65,000 hectares are irrigated with approximately 650 center pivots. www.aiba.com.br

Map of Brazil showing permanent crops and arable land. Although irrigation projects exist throughout Brazil, highlighted area shows major projects along the São Francisco and Parnaiba River Valleys that could be of primary interest to US exporters of irrigation equipment



Petrolina and Juazeiro
Another area under development by CODEVASF is the area around the artificial dam of Sobradinho, near the cities of Petrolina and Juazeiro. The most important irrigated fruit producers of South America are located here, with approximately 50,000 hectares of irrigated cultures, mainly grape, mango, pineapple, guava, melon, passion fruit and papaya. The gross output for the area has been estimated at approximately in US$ 1.2 billion for 2005. The major part of this production is exported to Europe on a daily basis by plane from Petrolina's Airport.

Transformation of São Francisco Water Foreseen

An important project that CODEVASF is developing, with the support of the Federal Government, is the transformation of the São Francisco River area. Its intention is to transfer large amounts of water from São Francisco River to the semi-arid areas of the northeastern states of Ceará, Paraiba, Pernambuco, and Rio Grande do Norte. It is a US$ 1.5 billion project expected to increase production by 1,000,000 hectares of very fertile areas.

At this point it is important to consider perhaps the most important foreseeable problem concerning the growth of irrigation, and at the same time, one of the most promising areas of commercial exploration, related to the groundwater development. If the irrigation segment is to be based exclusively on the use of surface water, then serious limitations will arise in the short term. The use of surface water in this manner introduces not only environmental problems but also restricts water supplies used in energy generation. Consequently, it is expected that groundwater potential and its exploration will become areas of concern in support for the irrigation sector.

Sales Prospects

The products most frequently exported to Brazil are peripheral or complementary irrigation equipment, usually imported on a draw back basis. These products are expected to continue as the best sales prospects in Brazil for the next few years, as follows:

- Electronic control systems
- Sprinklers and sprays
- Pressure regulators
- Special gears and motor gears
- Special nozzles, injectors and valves
- Control panels
- Well pumps

According to end-users that were interviewed for this report, the most important competitive factors in supplying this market for irrigation equipment and agriculture machines in general have been price, financing, and a dealer network that offers good after-sales services.

Trends

Irrigation systems are being viewed in Brazil as a paradigm of a modern, productive and progressive agriculture industry. Since introduction of new irrigation techniques means better productivity, it will preclude the necessity of opening new areas, and avoid substantial environmental impact and degradation.

During the last few years, improvements in the Brazilian agriculture industry may be attributed to new technologies, such as irrigation, rather than to the expansion of cultivated areas. An example of this is the coffee plantations located in the southern region, which represent an average output of 18 bags/hectare, while the irrigated coffee plantations in the Cerrado have been achieving about 60 bags/hectare of high quality coffee. Another point is a better cost/productivity ratio. For instance, the traditional producers have presented production costs of US$ 80/bag, while the irrigated coffee costs US$ 30/bag. As a consequence, many traditional coffee growers from the southern states are moving to the Cerrado area.

According to this trend, grain and sugar cane growers are shifting from traditional methods of production. They have realized that with irrigation, they can avoid the risks of reduced production because of adverse climatic conditions, for instance the shortage of rainfall that affects the tropical regions, as a consequence of the El Niño phenomenon.

Another advantage that the industry is experiencing is that an increase in productivity obtained with irrigation reduces considerably the need for extensive land and saves costs of production, since the Cerrado land area permits up to three crops per year. In other words this means that, it is possible to cultivate crops in the Cerrado all year long.

All information regarding Brazilian agriculture, the basis of its economic activity and its present economic situation, indicates that there is only one way it can survive as a global player, and that is through "technology", to challenge high productivity costs and lower prices for agricultural commodities. This clearly points to a need for an increasingly expanding irrigation market.

Methods of Irrigation Used
The Brazilian irrigation market uses mainly the aspersion and surface systems, which accounts for 65% of the total market. The remaining 35% of the market is shared among center pivots (25%), micro-aspersion and dripping systems (10%).

The local industry capacity is estimated at 115,000 hectares/year, of this total 60,000 hectares for center pivots and 55,000 hectares for other irrigation systems.

The local industry is reasonably developed and somewhat competitive as a consequence of many factors, such as the benefits of government financing and incentives, and devaluation of the Brazilian currency by 60% since 1999. This has negatively affected the importation of all products, especially those that compete with domestic goods. However, the Brazilian Foreign Trade Association AEB forecasts that

imports should grow 20% in 2005, and exports 5% compared with 2004.

Drilling and Well Construction are Good Opportunities
According to present import policy, products that are not locally produced have reduced tariffs. However, the groundwater sector presents a good import opportunity. The niche markets for small and shallow drilling, and well construction are quite competitive, whereas there is little competition in the deep and large production well segment: no more than five companies have explored this segment in Brazil. What is in high demand in this sector is high technology, high yield, price competitive, and efficient equipment. Despite the fact that five companies have good drilling and well construction equipment and technical know-how and competence, it is clear that there is a lack of sensitivity to market demands and development, particularly for such factors as time/price and quality/price considerations.

Market Access

Despite the lower price of foreign equipment, financing offered to Brazilian firms, plus the import duties, limits the competitiveness of imported products. In a recent market study, several dealers commented that, in order to succeed in the Brazilian irrigation market, it is a pre-condition that a company establish a branch office in the country. The company could then import the core of the equipment and add the peripherals manufactured domestically. This would, in their opinion, make the company's system highly competitive, not only in Brazil but also in Mercosul, the common market for the Southern Cone, which includes Argentina, Brazil, Paraguay, and Uruguay. Bolívia, Chile, Peru and Venezuela are associate members.

A US company installed in the country may qualify for benefits from the Brazilian Development Bank - BNDES, which is the chief federal agency for long-term financing. FINAME is the BNDES agency in charge of promoting the expansion, retrofitting and revamping of Brazilian plant facilities by funding, in Brazil and abroad, the sale of domestic-made machinery and equipment. For more information on BNDES programs, please visit its site: www.bndes.gov.br (information in English is available).

There are no special requirements or non-tariff barriers for importing irrigation equipment and peripheral components into Brazil. No import license is necessary. The importer only has to fill out a D.I. form (Declaração de Importação), when entering the goods through the local customs.

In recent years, Brazil has reduced import duties and simplified the bureaucratic procedures for the importation of most products. However, corporate taxes in this country are very high, compared to international standards.

US exporters should note that the landed cost of goods is particularly high in Brazil. Goods with an estimated FOB value of US$ 100,000 may end up with a landed cost of US$ 170,000. For more details on the makeup of these costs, please view our report on Trade Regulations in our Country Commercial Guide: www.focusbrazil.org.br/ccg.

Brazilian Irrigation Equipment Companies

National competitors are mainly agricultural and irrigation equipment manufacturers. They have state-of-art technology and are generally associated with one or more foreign firms through licensing agreements or joint ventures. There are about 60 companies manufacturing irrigation equipment and products in Brazil. The main irrigation equipment manufacturers are as follows:

VALMONT, an American manufacturer with 50 years of local production, located in a southeast state in Brazil. It carries Valley center pivots and detains 50% of Brazilian market for this irrigation system. www.valmont.com.br

NETAFIM, subsidiary of an Israeli company, it has five hub offices in Brazil, and it is headquartered in Ribeirão Preto, SP. Netafim detains approximately 60% of Brazilian market for low volume irrigation. www.netafim.com.br

AMANCO Brasil, a Brazilian subsidiary of Swiss Group Amanco, leads the market in turbo and groundwater irrigation systems. Amanco acquired in 2003, from Saint-Gobain Group, **Carborundum**, a Brazilian Company that manufactures micro-aspersion and drip equipment, and a whole line of components for low-volume irrigation systems. Carborundum's products are being well received in the Brazilian market and have already gained approximately 15% of the market share for this sub-sector. www.amanco.com.br

LINDSAY America do Sul, a subsidiary of US Company Lindsay Manufacturing Co., manufactures in Brazil a complete line of irrigation systems: center pivot, mobile, lateral, mini pivots and fertilizer injectors. Lindsay also trades **Zimmatic**, **Greenfield** and **Growsmart**, manufacturers of complementary irrigation products. www.lindsay.com.br

FOCKINK, a Brazilian company located in Panambi, Rio Grande do Sul, a southern state in Brazil. Fockink manufactures center pivot and it has representatives throughout the country. Fockink also exports its products to South America, Central America and Africa: www.fockink.ind.br

IRRIGABRAS located in Barueri, São Paulo, manufactures center pivots, mobile and mini-pivots. Company has representatives in the Southern and Northeastern states. www.irrigabras.com.br

ASPERBRAS Sistemas de Irrigação Ltda located in São Paulo with branch offices in the Northeast of Brazil, and various representatives throughout the country. Asperbras manufactures conventional irrigation galvanized steel equipment (hot dip) PVC equipment. It has also started to manufacture micro-aspersion and drip irrigation equipment. www.asperbras.com.br

International Players

Import Market Share	2003		2004	
	US$ mn	%	US$ mn	%
US	$10	24%	$13	28%
Italy	$9	21%	$12	26%
Germany	$6	14%	$6	13%
Israel	$4	10%	$4	9%
Argentina	$4	8%	$3	7%
Spain	$1	3%	$0.5	1%

Source: Ministry of Development, Government of Brazil.

Additional Resources

- For more information about export opportunities in this sector contact US Commercial Service Trade Specialist Vania Resende at: vania.resende@mail.doc.gov
- For more reports on this sector in other countries, please visit Export.gov's site for US Commercial Service Market Research Worldwide: http://www.export.gov/marketresearch.html
- US Commercial Service in Brazil: www.buyusa.gov/brazil
- Brazilian Industrial Association of Machines and Equipment (ABIMAQ): www.abimaq.org.br
- Brazilian Ministry of Agriculture: www.agricultura.gov.br
- USDA's Foreign Agricultural Service: www.fas.usda.gov
- For more information on selling to Brazil and an overview on Best Prospects in agricultural equipment, see our Country Commercial Guide: www.focusbrazil.org.br/ccg
- FENAGRI – Irrigation Show in Petrolina, November 2005. For more information on this show, please contact Vania.Resende@mail.doc.gov

AGRISHOW in Brazil – May 2005

AGRISHOW is the largest agricultural equipment show in Latin America for 2005. For US suppliers of goods and services to this sector who are interested in selling more in Brazil, we highly recommend attendance. The President of Brazil typically attends, in addition to over 150,000 people and more than 600 exhibitors (2004). This show is in Ribeirão Preto, a leading agricultural city on the border between the states of São Paulo and Minas Gerais.

For 2005, the US Commercial Service in Brazil is offering a variety of packages of assistance for US companies interested in attending. Our services range from free initial consultations to full levels of exposition participation in our US pavilion space. For further information on this show, please contact Vania.Resende@mail.doc.gov. Ms. Resende is our Event Leader for AGRISHOW 2005, has led delegations to the show in the past, and can, in fluent English, assist you with any inquiries you may have.

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